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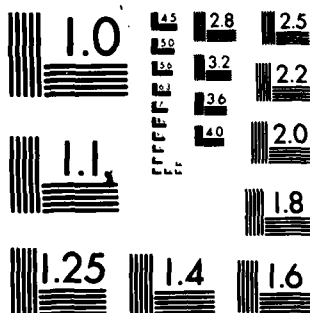
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**Phase II Archeological Testing at 32BA414
Lake Ashtabula, Barnes County, North Dakota**

by

**David D. Kuehn and Michael L. Gregg
Department of Anthropology and Archaeology
University of North Dakota Archaeological Research
University of North Dakota
Grand Forks, North Dakota**

Contribution No. 202

February, 1984

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A139577	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) PHASE II ARCHAEOLOGICAL TESTING AT 32BA414 LAKE AHHTABULA, BARNES COUNTY, NORTH DAKOTA		5. TYPE OF REPORT & PERIOD COVERED Final
7. AUTHOR(s) David D. Kuehn Michael L. Gragg		6. PERFORMING ORG. REPORT NUMBER Contribution no. 202
9. PERFORMING ORGANIZATION NAME AND ADDRESS University of North Dakota Department of Anthropology and Archaeology Grand Forks, North Dakota 58202		8. CONTRACT OR GRANT NUMBER(s) DACW87-83-M-1137
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Engineer District, St. Paul 1135 USPO & Custom House St. Paul, MN 55101		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE February 1984
		13. NUMBER OF PAGES 47 p.
		15. SECURITY CLASS. (of this report)
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) ARCHAEOLOGY NORTH DAKOTA BALDHILL DAM RECREATION SITES		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The primary purpose of archeological testing was to evaluate the site in Eggerts Landing campground because of Corps of Engineer plans to modify the spillway and relocate the main public recreational area. The site is identified as late Plains Woodland. Further archaeological work is not recommended as the site does not appear eligible for nomination to the National Register of Historic Sites. Higher density deposits were likely concentrated west of the present campground in an area now inundated by Lake		

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-Ashtabula. In addition, the site did not produce, and is not likely to contain, information which can be considered important from a regional archeological perspective.

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PHASE II ARCHEOLOGICAL TESTING AT 32BA414,
LAKE ASHTABULA, BARNES COUNTY, NORTH DAKOTA

by

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Grand Forks, North Dakota

Contribution No. 202

February, 1984

Principal Investigator

Michael L. Gregg
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MANAGEMENT SUMMARY

Phase II archeological testing was conducted at 32BA414 in Eggerts Landing campground, Barnes County, North Dakota, by University of North Dakota Archaeological Research (UNDAR), under the auspices of the U. S. Army Corps of Engineers, St. Paul District, contract number DACW37-83-M-1137. The primary purpose of the testing was to facilitate evaluation of the site in terms of eligibility for nomination to the National Register of Historic Places. The evaluation is in response to Corps of Engineers plans to expand the Eggerts Landing campground as a result of spillway modifications at the Baldhill Dam which will necessitate relocation of the main public recreation area.

The field methods employed are in compliance with the Scope of Work furnished by the Army Corps which requires an assessment of the site in terms of vertical and horizontal artifact distribution, site integrity, and cultural affiliation. The testing was accomplished by establishing a 10 m rectangular grid system across the site area and subsequently excavating a power auger probe (ca. 20 cm diameter bit) at the location of each grid coordinate. Each auger probe was investigated by screening the matrix through wire mesh with four openings to the inch (ca. 6 mm mesh). Seven 1 x 1 m test units were excavated after the auger testing was completed. These were placed at the locations of certain auger probes which produced cultural material, and were horizontally distributed throughout the site. The test units were excavated in 10 cm levels using shovels and trowels. All matrix was placed through ca. 6 mm mesh screen, except for a standard 1/9th sample recovered from each test unit level and waterscreened through ca. 1.2 mm mesh. The site was mapped using a transit and stadia rod.

A total of 82 artifacts and ecofacts were recovered by the testing. These materials were analyzed at the University of North Dakota, utilizing standard UNDAR laboratory procedures (size grading, artifact class sorting, and quantification). The recovered cultural materials consist of 44 pieces of unmodified flaking debris, five stone tools, four ceramic sherds, 23 pieces of fire-cracked rock, two small pieces of tooth enamel, one small shell fragment, one piece of charcoal, and two historic items. The material was recovered from 11 of the auger tests

and six of the 1 x 1 m test units. Vertically, the artifacts were distributed from 0-70 cm below the ground surface; however, the majority were concentrated from 0-30 cm. The density of cultural material at the site is very low, with an average of 6.5 items per m² (size grade 1-3). The material was irregularly distributed horizontally, with little or no apparent density patterning. No cultural features were encountered, and the likelihood of any in the site area is considered low. Much of the site appears to have been disturbed by water inundation, campground construction, and systematic tree planting.

The site is identified as late Plains Woodland on the basis of cord roughened ceramics and a single, side notched arrow point. A single cultural occupation is suggested, with a temporal estimate of A.D. 900-1350. The site appears to represent a campsite of short duration; however, useful functional and interpretive data is limited.

No additional archeological work is recommended for 32BA414 as it does not appear eligible for nomination to the National Register of Historic Places. Higher density archeological deposits were likely concentrated west of the present campground in an area now largely inundated by Lake Ashtabula. In addition, the site did not produce, and is not likely to contain, information which can be considered important from a regional archeological perspective.

The repository of all records and artifacts is the Department of Anthropology and Archaeology, University of North Dakota, Grand Forks, North Dakota 58202. A copy of all test unit level forms was submitted to the U.S. Army Corps of Engineers, St. Paul District, as an attachment to this report.



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INTRODUCTION

A program of phase II archeological testing was conducted at prehistoric site 32BA414, Eggerts Landing campground, Lake Ashtabula, North Dakota. The testing was performed by personnel from University of North Dakota Archaeological Research (UNDAR), under the direction of Michael L. Gregg, Ph.D., Principal Investigator, and David D. Kuehn, M.A., Project Director. The purpose of the investigation, through contract number DACW37-83-M-1137 with the U.S. Army Corps of Engineers, is to procure data to evaluate the site for potential eligibility for nomination to the National Register of Historic Places. In addition, the information generated from the testing will be used to assist future archeological research and U.S. Army Corps planning. The field portion of the project was conducted during the period of June 1 through June 9, 1983, by David D. Kuehn (Project Director), Cynthia Kordecki (Advanced Archeological Assistant), and Jane Monson (Archeological Assistant). The laboratory analyses were completed between June 13 and July 1, 1983, by the Principal Investigator and the Archeological Assistant. The profile and contour map drafting was conducted by Tom Lenzen, UND Department of Geography.

The procedures followed during the testing and analyses are in compliance with the scope of work issued by the U.S. Army Corps of Engineers, St. Paul District, on March 23, 1983 (Appendix A). Site 32BA414 is located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ and the NE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 22, T142N, R58W, Barnes County, North Dakota (Figures 1 and 2). The site borders Lake Ashtabula and is on land administered by the U.S. Army Corps of Engineers. The following report, summarizing the results of the UNDAR Phase II testing at 32BA414, is submitted in partial fulfillment of the specifications associated with contract number DACW37-83-M-1137.

PREVIOUS CULTURAL RESOURCE INVESTIGATIONS

Archeological research in the Lake Ashtabula area has been rather sporadic since the late 1800s, with large-scale and systematic programs not undertaken until the 1970s. The first documented investigation is a

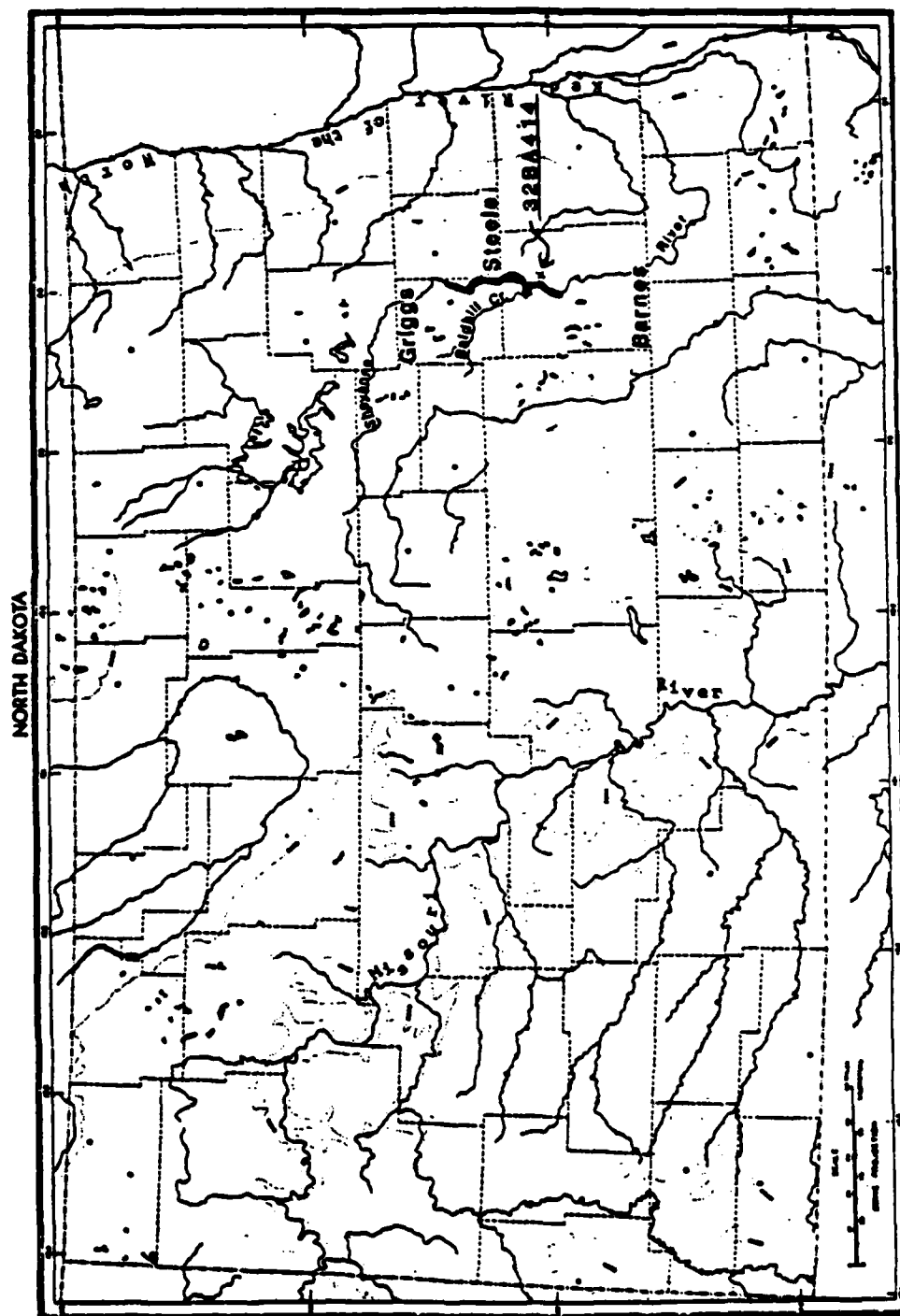


Figure 1. Location of 32BA414.

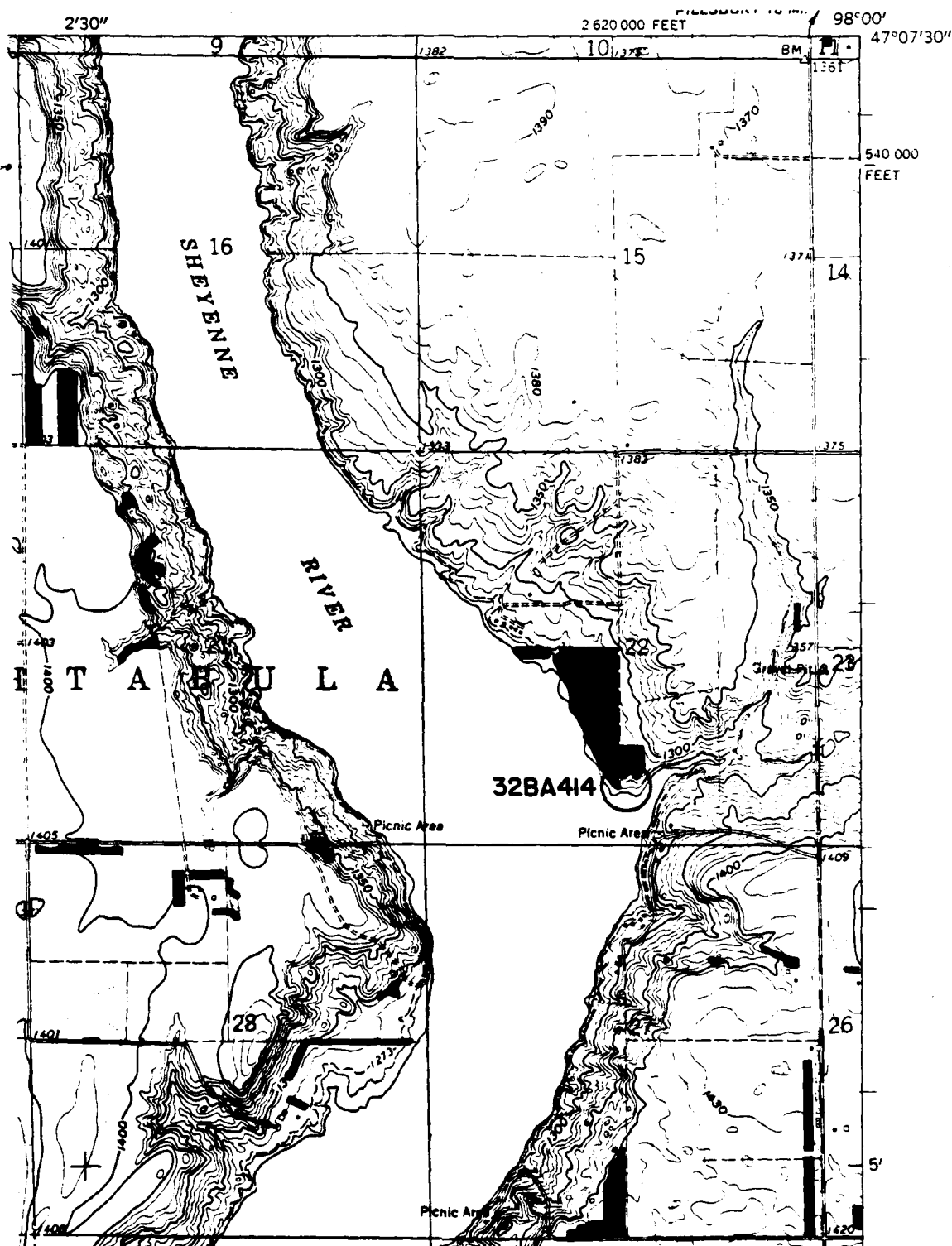


Figure 2. Topographic map of the 32BA414 area (from the U.S.G.S., 7.5' Baldhill Dam quadrangle, 1961).

descriptive account of a rock alignment along the Sheyenne River northwest of Valley City by Todd (1886) (Fox 1980:12).

The planned construction of the Baldhill Dam in the late 1940s stimulated a program of survey and site testing along Lake Ashtabula by Marvin Kivett of the River Basin Surveys in 1947. A total of 10 archeological sites were identified by Kivett, including six campsites and three mound sites (Fox 1980:12; Kivett 1948). Approximately four sites were test excavated, including 32BA5, 32BA6, 32GG1, and 32GG2 (Fox 1980:12; Kivett 1948). Kivett differentiated campsites from villages, described Woodland ceramic assemblages, and reported on burial mound interment practices (Kivett 1948:7-9).

Test excavations were conducted at two mounds in site 32BA1 in 1948 by G. W. Hewes (Fox 1980:13; Hewes 1949). 32BA1 is situated approximately 4 km northwest of 32BA414. The Hewes excavations, conducted under the auspices of the University of North Dakota, uncovered wood lined and roofed central burial chambers with secondary human burials. Artifacts were not abundant, but included projectile points, a copper bead, worked animal and human bone, bird bone tubes, shell disk ornaments, and stone tools (Hewes 1949). No pottery was recovered during the excavations and the site was not assigned a cultural affiliation (Hewes 1949:327-328). Recovered cranial materials have since been analyzed (Ossenberg 1974), and the site has been included in the Plains Woodland Sonota complex (Neuman 1975:88).

In 1976, Vehik and Vehik presented a comprehensive overview of the known archeological, historical, and paleontological resources of the Sheyenne River Valley, under contract with the U.S. Army Corps of Engineers. The report included a summary of previous cultural resource work conducted in the Sheyenne River Valley, and a synopsis of the known prehistory and history of the area (Vehik and Vehik 1977).

The first archeological investigation at site 32BA414 was a survey performed by the University of North Dakota at Eggerts Landing in 1977. The survey, under the direction of Fred Schneider, was conducted by three field investigators, and consisted of an intensive investigation of the campground, picnic areas, shoreline, and adjacent hillsides (Schneider 1977:1). No cultural material was observed. It was noted that the Eggerts Landing area appeared to have very low archeological site probability (Schneider 1977).

In 1978, Vehik conducted an archeological survey of seven areas along the Sheyenne River. The survey resulted in the recording of 56 prehistoric and five historic sites (Vehik 1979). The prehistoric sites ranged from the Plains Archaic tradition to the Plains Village tradition; however, approximately 50% of those recorded were identified as Woodland (Vehik 1979:ii).

During the 1978 field season, and extending into the 1979 season, an intensive archeological and historical survey was conducted along a large portion of the Lake Ashtabula shoreline, as well as a portion of the Sheyenne River. The inventory, conducted under the direction of Richard Fox, UNDAR, resulted in recording 41 sites, of which 37 are prehistoric (Fox 1980). Site 32BA414 was originally recorded during this inventory when four projectile points and flaking debris were observed along the shoreline. A total of 15 power auger probes, utilizing a ca. 25.4 cm diameter bit, were excavated at the site during the recording process, with negative results (Fox 1980:75).

The University of North Dakota, again under the direction of Fox, conducted phase II testing at 32BA418, north of 32BA414, in 1981 (Fox 1982). The site consists of a bison bone processing area, probably with a Middle or Late Woodland cultural affiliation. This identification was based on geomorphological data as no temporally diagnostic artifacts were recovered (Fox 1982).

An infrared aerial photographic survey for cultural resources was conducted on the east shoreline of Lake Ashtabula by Strachan and Roetzel (n.d.). The photographic results were interpreted in order to identify areas of high, medium, and low site probability (Strachan and Roetzel n.d.:15).

Finally, a program of Phase II testing was conducted at site 32BA3, near the Baldhill Dam, during the fall of 1982. The testing, performed by the University of North Dakota, resulted in data suggestive of an early Plains Village tradition campsite (Gnabasik and Gregg 1984). Few lithic or ceramic artifacts were recovered. However, the site did produce a fairly large amount of faunal material, indicating that an important site activity probably was bone grease rendering (Gnabasik and Gregg 1984).

PHYSICAL SETTING

Site 32BA414 is situated on a terrace remnant along the east shoreline of Lake Ashtabula in east-central North Dakota (Figure 2). A small intermittent drainage borders the site along the east and southeast, while Lake Ashtabula borders along the south and west. The site area is relatively flat although the topography slopes steeply to the northeast a short distance from the site. The small drainage along the east and southeast is now partially inundated by Lake Ashtabula, resulting in a peninsula-like appearance for the site area.

The site is located in the valley of the Sheyenne River in the Drift Prairie district of the Central Lowlands physiographic province (Fenneman 1931). The Drift Prairie is characterized by low relief and rolling grassland. Glacial features commonly found in the region include ground moraines, end moraines, kames, eskers, and meltwater channels (Kelly and Block 1967).

Geologically, the project area is situated near the eastern edge of the Williston Basin, a structural and sedimentary basin formed during the Cretaceous period (Bluemle 1977). Bedrock underlying the area includes the Dakota group (Cretaceous sandstones), Colorado group (Niobrara formation shales), and the Montana group (Pierre formation shale) (Kelly and Block 1967).

Most of the landscape visible today is the direct result of Wisconsin glaciation during the late Pleistocene. However, the area was probably glaciated as early as the Iowan advance (Kelly and Block 1967:44). Thick glacial drift (as deep as 95 m) blankets Barnes County (Kelly and Block 1967:17). Glacial till is dense east of 32BA414 in the uplands above the Sheyenne River Valley. Barnes County contains at least seven different glacial drifts. One such drift, the Luverne drift, terminates in an end moraine immediately east of the project area at the edge of the Sheyenne River Valley (Kelly and Block 1967; Wyckoff 1982:35).

The ancestral Sheyenne River Valley originated as a glacial meltwater channel during the Cooperstown phase (Kelly and Block 1967:vi). The channel originally carried meltwater into the James River, but eventually was diverted into glacial Lake Agassiz after the retreat of

the Luverne ice front (Kelly and Block 1967:47). Today the Sheyenne River flows south and east, emptying into the Red River north of Fargo, North Dakota.

32BA414 is situated on an alluvial terrace composed of sands, silts, and clays. The dominant soil is sand; however, small amounts of silt and clay were encountered. A more specific discussion of the stratigraphy and soils is presented in the DISCUSSION section of the report on page 24. Soils on the sloping valley walls are classified as Buse loam (Patterson et al. 1968; Wyckoff 1982:35). The Barnes soil series is commonly present in the Buse loam, and has a typical solum composed of a black loam A₁ horizon, a dark grayish brown loam B₂ horizon, a grayish brown loamy C_{ca} horizon, and a C horizon of olive brown loam. Parent material in the Barnes series is predominantly glacial till (Patterson et al. 1968:124; Wyckoff 1982:42).

The following discussion of the flora, fauna, and climate of the Lake Ashtabula area is taken directly from Fox (1982), which relies heavily on data presented by Johnson et al. (1974) and Vehik (1979).

Prior to Euroamerican influxes, the transition grassland vegetation characterized the Drift Plains surrounding the site area. . . . The chief dominants were the needlegrasses (Stipa spp.) and slender wheatgrass (Agropyron trachycaulum) (Anonymous 1979:7). Grasslands interspersed with the gallery forest occupied the Sheyenne River valley. Remnants of these communities exist today. The gallery forest species consist mainly of bur oak (Quercus macrocarpa), green ash (Fraxinus pennsylvanica), box-elder (Acer negundo), American elm (Ulmus americana) and others. These species were particularly prominent along the oxbows and meanders of the river (Johnson et al. 1974:20). Today, much of the vegetation is in cultivated crops, hay and pastureland.

Faunal types are varied throughout the region. Prior to non-native influences, species that are now absent such as moose (Alces americanus), antelope (Antilocapra americana), elk (Cervus canadensis), bear (Ursus spp.), deer (Odocoileus spp.) and bison (Bison bison) inhabited the area (Thompson and Joos 1975:86-90; Bailey 1926). Of these, only white-tail deer (Odocoileus virginianus) remain today (Johnson et al. 1974:38). Johnson et al. (1974:31-38) present in detail the numerous amphibians, reptiles, birds and small mammals that are frequently encountered within the region. According to Wiehe and Cassel (1977), there are 9 species of amphibians, 8 species of reptiles, 262 species of birds and 52 species of mammals that occur in the Sheyenne River valley.

Vehik (1979:10) has noted that many species of plants and animals that occur in the region were utilized by prehistoric inhabitants in other portions of eastern North Dakota and the

Northern Plains. Excellent detailed accounts of such utilization can be found in Yanovsky (1936), Yarnell (1964), Densmore (1928), Gilmore (1911 and 1912) and Grinnell (1923).

The present day climate of the region is classified as cool-temperate, dry and sub-humid with long winters and cool summers. The average annual precipitation is 45.9 cm. The mean annual temperature is 5.6°C.

Vehik (1979:7-8) has postulated a paleoenvironmental model derived from paleoecology studies conducted elsewhere on the northern Plains. The sequence is presented below.

The climate of eastern North Dakota between 12,000 to 10,000 B.P. was cool and moist with cool summers and warm winters (BlueMLE 1977:53). This may have allowed the growth of boreal forests dominated by spruce-aspen, and is commonly referred to as the Late Glacial climatic episode (Wendland and Bryson 1974). At the end of the Pleistocene around 10,000 B.P. the climate became warmer and the black soils typical of prairie grasslands began to develop (BlueMLE 1977:53). This period ended around 9000/8500 B.P., and was characterized by pine and/or deciduous forests (Vehik and Vehik 1977:10). Two climatic episodes, the pre-Boreal and Boreal are recognized during this period (Wendland and Bryson 1974:Table 7). The period between 8500 and 5000 B.P. to 4000 B.P. had an even drier and warmer climate which reached a maximum around 8000 to 7000 B.P. Dominant trees were oak, but prairie grasses replaced most woodlands. This is the Atlantic climatic episode (Wendland and Bryson 1974:Table 7), and is characterized by recurrent summer droughts, extensive soil erosion, wind caused dunes, and lowered lake levels (BlueMLE 1977:53).

The climate became cool and moist again, similar to today's, around 5000 to 4000 B.P. and allowed the development of woodlands dominated by herbs, pine and deciduous trees. Basically, the climate fluctuated between cool humid conditions similar to the climate during most of the 1960s and slightly warmer periods like the 1930s (BlueMLE 1977:53). Wendland and Bryson (1974:Table 7) recognize five climatic episodes: the sub-Boreal (5000 to 2700 B.P.), the sub-Atlantic (2700 to 1680 B.P.) during which cool, wet conditions prevailed with heavy winter snowfalls (BlueMLE 1977:53), the Scandic episode (1680 to 1260 B.P.), the neo-Atlantic (1260 to 850 B.P.), and the Pacific episode between 850 to 400 B.P. (Vehik and Vehik 1977:10-11).

The final climatic episode, the neo-Boreal (400 to 100 B.P.), was not discussed by Wendland and Bryson. However, other researchers have noted colder and wetter climatic conditions with one period of alpine glaciation. Since A.D. 1850 alpine glaciation declined as the climate became warmer and somewhat less wet (Vehik and Vehik 1977:11) (Fox 1982:10-12).

RESEARCH ORIENTATION

The primary goal of this project is to evaluate the eligibility of 32BA414 for nomination to the National Register of Historic Places (NR). The evaluation of NR eligibility is in compliance with various Federal laws and cultural resource management guidelines, including the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, Executive Order 11593, the Archaeological and Historical Preservation Act of 1974, and the Advisory Council on Historic Preservation's "Regulations for the Protection of Historic and Cultural Properties" (32 CFR 800). This project is in response to Army Corps plans to expand the campground at Eggerts Landing due to spillway modifications at the Baldhill Dam, which will require relocation of the main recreation area at Eggerts Landing.

An established criterion for NR eligibility is whether a site "has yielded or is likely to yield, important information in history or pre-history" [36 CFR 1202.6(d)]. Important information has been interpreted as that which can be used to address formulated archeological research questions (Ahler et al. 1981; SHSND 1983). Following is a brief enumeration of questions related directly to the research potential of 32BA414.

1. To date, only one site in the Lake Ashtabula area has produced a radiocarbon date (32BA1), and very few sites have produced temporally diagnostic artifacts. Does the site contain datable organic materials and does it contain culturally/temporally diagnostic artifacts?
2. Does the site contain sufficient information to enable determining site function?
3. Does the site contain sufficient floral and faunal remains to interpret subsistence activities?
4. What intrasite comparisons can be made concerning activity areas, artifact densities, or other factors relevant to activity variability?
5. Does the site contain cultural material which can be considered rare or unusual? Similarly, does the site contain material of a named archeological unit that is especially poorly understood or rarely found in the area?

6. Is there evidence of more than one prehistoric occupation in a stratified context?
7. Does the site contain information useful in interpreting paleoenvironmental conditions?
8. Does the site retain integrity, i.e., is it relatively undisturbed?

These research questions are part of a much longer list that could be formulated; however, these are fundamental criteria related to the site's research potential. Additional research and management goals of the testing project include determination of the horizontal and vertical distributions of the cultural material as well as density and variability; interpretation of the natural stratigraphy and depositional history of the site; and, analysis of the lithic raw material distribution and frequencies, especially for use in studying intersite similarities, differences, and interaction.

FIELD METHODS

The first step in the field investigation was to relocate and inspect the site. The location of 32BA414 was described in sufficient detail on the North Dakota base data site form to permit easy relocation (Appendix B). This was conducted by three field investigators on June 1, 1983. According to the 1978 site form, lithic material was found along the beach between campsites 21 and 22. Both campsites were plainly marked with small signs, therefore the surface investigation began by intensively surveying the campsites and beach. Crew members systematically investigated all areas offering good surface visibility, which were rare due to heavy tree and brush cover. Special attention was given to bare spots in the campsites and between trees, as well as to trails and portions of the beach not obscured by riprap. The entire campground was surveyed, including roads and the rest room area. No prehistoric artifacts were observed in the site area, although a camper reported finding a chipped stone core here.

After the surface examination, a rectilinear coordinate system was established over the site. The grid was divided into 10 m quadrats aligned with magnetic north. Pin flags were placed at each grid coor-

dinate. A transit and metric tape were used to establish the grid, which was tied to a wooden datum stake (500N/500E). The datum was located in a clearing at campsite 22, which was designated the primary site area on the base data site form. The area included in the grid system was approximately 125 m east-west by 90 m north-south and included very heavily wooded areas along and immediately adjacent to the shoreline (Figure 3).

Auger Probes

The next step in the field work consisted of excavating power auger probes at each grid coordinate. While limited auger probing was conducted during the 1978-1979 site investigations, it was felt that a more thorough and systematic program was needed to properly evaluate the entire site area. A 1½ HP auger with a ca. 20 cm (8 inch) diameter bit was used during the testing. Many of the auger holes were located in heavy brush and trees; a machete was used to clear away an area of sufficient size to allow for use of the auger. The probes were excavated to the maximum length of the auger bit (ca. 80 cm) or to impenetrable root concentrations. After the auger holes were excavated, the matrix was scooped up and placed through standard ca. 6 mm (¼ inch) mesh screen. Notes were taken on the depth and soils of each hole and the presence/absence of artifacts, after which they were backfilled. All recovered cultural material was placed in numbered bags and the locations of the productive probes were noted in the field notes. At two areas within the site (510N/540E and 480N/560E), several additional auger probes were excavated at 5 m intervals. In these areas, the probes were placed closer together in an attempt to locate additional cultural material in the vicinity of two productive auger probes. A total of 76 auger probes were excavated at the site (Figure 3). Thirteen of these produced cultural material, for a total of 10 flakes, two pieces of fire-cracked rock, one prehistoric ceramic sherd, and one manuport (Table 3). The probes were primarily concentrated in the southern and western portion of the campground. This area was chosen because of its close proximity to the shoreline where cultural material was recovered in 1978-1979 (Fox 1980).

Test Units

After evaluating the results of the auger probes, a total of seven 1 x 1 m test units were excavated. The test units (XUs) were placed at the location of productive auger probes which appeared to offer the most research potential while providing for maximum horizontal coverage of the site area. Figure 3 shows the test unit locations throughout the site, including the shoreline area (XU7), the central portion (XU3 and 4), the northern and eastern portion (XU1 and 2), and the northwestern portion (XU5 and 6) (Figure 3).

The test units were oriented within the site grid system and were hand excavated using shovels and trowels. Vertical control was maintained within 10 cm arbitrary levels. All matrix was screened through ca. 6 mm mesh, except for a standard 33 x 33 x 10 cm (1/9th) sample removed from one corner of each level and waterscreened through fine mesh (ca. 1.2 mm openings). The waterscreen sample was collected from every test unit except XU2, which was completely devoid of cultural material. The waterscreen samples were screened in the field and again in the lab. Standard forms were completed after each excavated level, and profile maps were prepared for one wall of each completed test unit (Figure 5). Before backfilling, photographs were taken of each test unit (color slides), and soil color was recorded using a Munsell color chart. Each unit was excavated to culturally sterile soil, at least two levels below the last level to produce cultural material. Two units (XU1 and 3) were excavated to 90 cm; XU4 was excavated to 70 cm and an auger probe penetrated another 30 cm. One was excavated to 80 cm (XU6) and two to 70 cm (XU2 and 5). The final unit (XU7) was excavated to 30 cm where the water table was encountered.

After the units were excavated and backfilled, the site was topographically mapped using a transit and stadia rod. Included in the map are the locations of all auger probes and test units as well as the Lake Ashtabula shoreline and campground reference points such as roads and the brick restrooms. The entire grid system is tied into a survey marker located at the north edge of the Army Corps property boundary (Figure 3).

ARTIFACT ANALYSIS

This section explains the laboratory procedures employed, and summarizes the materials recovered by testing at 32BA414.

Laboratory Methods

All recovered materials were analyzed and quantified at Babcock Hall, University of North Dakota, Grand Forks. The analysis was designed to produce a collection of data consistent with other UNDAR research projects of similar scope.

Laboratory cataloging consisted of assigning catalogue numbers to each provenience unit from which cultural materials were recovered. After cataloging, all recovered materials were separated according to size grade. This procedure has proven useful in expediting material class sorting; further, size grade data generated and collected in the size grading process facilitate a variety of potential analytical procedures (cf. Ahler 1977). The size grading was accomplished by placing all debris into an automatic shaker with five different U.S. Standard Sieve screens. The different size grades and associated screen sizes are:

- G1. Grade 1. 25.4 mm (1.00 in) opening
- G2. Grade 2. 12.7 mm (0.50 in) opening
- G3. Grade 3. 5.60 mm (0.22 in) opening
- G4. Grade 4. 2.54 mm (0.10 in) opening
- G5. Grade 5. 1.18 mm (0.04 in) opening

Materials were hand manipulated through G1 and G2.

The next step consisted of sorting the size graded materials into different artifact classes: stone tools, flaking debris, ceramics, fire-cracked rock (FCR), bone, charcoal, shell, and historic debris. Ceramics were further subdivided into body sherds and rim sherds. The sorting guidelines are summarized in Table 1.

Stone tools are defined as "... any object which shows evidence (flake removals, use-damage) of having been used or intended to be used to transmit force to or modify another object, or of having been used as

Table 1. Sorting guidelines for excavated debris from 32BA414.

Basic Artifact Material Classes	Subclasses	Size Grade Sorted From				
		G1	G2	G3	G4	G5
Chipped Stone:	Modified (Tools)	X	X	X	X	X
	Unmodified Flaking Debris	X	X	X	X	X
Pottery:	Rim Sherds	X	X	X	X	
	Body Sherds	X	X	X	X	
Bone:	Modified	X	X	X		
	Unmodified	X	X	X		
Shell:	Modified	X	X	X	X	
	Unmodified	X	X	X	X	
Fire-Cracked Rock		X	X	X		
Natural Rock		X	X	X		
Historic debris		X	X	X	X	
Charcoal		X	X	X		
Residue of Unsorted Debris					X	X

a source of raw materials for manufacture of other tools" (Ahler et al. 1981:26). Stone tools from 32BA414 were analyzed within the framework of functional and use-phase classes originally defined in Ahler (1975, 1977), and also described in Ahler et al. (1977), Lovick (1980), Ahler et al. (1981), and Ahler and Weston (1981). Functional class assignment is based on a combination of morphological, technological, and use-wear variables. Macroscopic and microscopic examination were both employed in the analysis of use-wear. Variables considered include wear type, wear location, wear intensity, and hardness of the worked material (cf. Ahler 1975:Appendix K and M). Use-phase class designation records the stage the tool has reached in the cycle of manufacture, use, maintenance, and discard (Ahler 1975, 1977).

The four use-phase classes are defined as follows. Use-phase 1 includes complete, unfractured blanks or preforms, or other incompletely manufactured items. Use-phase 2 includes technologically unfinished, unused tools, broken or rejected and discarded during manufacture (non-functional items). Use-phase 3 tools are complete, unfractured, completely manufactured artifacts and artifacts potentially usable in their present form (functional items). Use-phase 4 tools were broken, worn out, or otherwise rejected during use, resharpening, or recycling (nonfunctional items) (Ahler et al. 1977:93). In addition to functional and use-phase analyses, stone tools were also classified by raw material type.

Chipped stone flaking debris was analyzed by separating the material by size grade and then sorting each grade according to raw material type. Within each material type category, information was recorded on counts, weights, cortex, and degree of patination.

Ceramic specimens were size graded, counted, and weighed. Rim sherds are defined as ". . . any part of the vessel from the neck area or above, or any sherd containing a lip remnant . . ." (Ahler et al. 1981:29). Body sherds were classified according to exterior surface treatment and temper.

All other materials recovered from 32BA414 were counted and weighed by artifact material class and subclass. Standard quantification forms were used.

Chipped Stone

A total of 49 chipped stone artifacts were recovered from the testing at 32BA414: five stone tools and 44 pieces of unmodified flaking debris. The material was recovered from five of the seven excavation units and seven auger tests (Tables 2 and 3).

Unmodified Flaking Debris

Flaking debris was recovered from XU1, 3, 4, 5, and 6, as well as from auger probes 480N/500E, 480N/560E, 500N/520E, 520N/460E, 530N/460E, 540N/460E, and 540N/500E (Tables 2 and 3). The material was sparsely distributed, with no apparent areas of concentration. The maximum number of flakes recovered from a single test unit was 11 from XU4 (Table 2). The maximum number recovered from an auger probe was three from 500N/520E. Flakes range in size from G2-4 with no G1 material represented. G2 and 3 materials total 25, while G4 materials total 19. As expected, the G4 material is largely limited to the waterscreen samples; just four G4 flakes were recovered by dry screening.

The flaking debris aggregate is represented by eight different raw material types: Swan River chert (13), jasper/chert (10), clear and white mottled chalcedony (two), gray chalcedony (one), light brown chalcedony (one), basalt (one), Knife River flint (KRF) (11), and quartzite (five) (Table 4). None of the KRF or chalcedony flaking debris is patinated. All of the lithic raw materials represented in the flaking debris and tools, except for the KRF, are most likely available locally in the glacial till. While some KRF may be locally derived, the majority is probably from the primary source region west of the Missouri River, indicating the site occupants may have been in contact with the Middle Missouri and Northwestern Plains subareas.

The raw materials from 32BA414 are somewhat similar to those represented at 32BA418, located upstream and test excavated in 1981 (Fox 1982:62). At 32BA418, jasper/chert is the dominant material, with 30.5% of the total, followed by KRF with 27% (Fox 1982:62). At 32BA414, jasper/chert and Swan River chert represent 52% of the total flaking debris aggregate, with jasper/chert alone representing 22.7%; KRF represents 25% of the total. At both sites then, the prehistoric occu-

Table 2. Inventory of excavated cultural material by unit and level, 32BA414.

XU	Level	Depth (cm ad)	Flaking Debris (G1-3)	Debris (G4)	Stone Tools (n)	PCR (G1-3) (n)	Prehistoric Ceramics (G1-4) (n)	Shell (g)	Historic (n)	Vertebrate Fauna (G1-3) (g)	Charcoal (g)
1	1	0-10	0	0	0	0	0	0	0	0	0
	2	10-20	0	2	0	0	0	0	0	0	0
	3	20-30	0	1	0	1	0	0	1	0	0
	4	30-40	0	0	0	0	1	0	0	0	0
	5	40-50	2	1	0	0	0	0	0	0.1	0
	6	50-60	1	2	0	5	0	0	0	0	0
	7	60-70	0	1	1	0	0	0	0	0	0
	8	70-80	0	0	0	0	0	0	0	0	0
	9	80-90	0	0	0	0	0	0	0	0	0
Total			3	7	1	6	1	0	1	0.1	0
2	1-7	0-70	0	0	0	0	0	0	0	0	0
3	1	0-10	0	0	1	0	0	0	1	0	0
	2	10-20	1	0	0	0	0	0	0	0	0
	3	20-30	5	1	0	0	0	0	0	0	0
	4	30-40	0	0	0	0	0	0	0	0	0
	5	40-50	0	0	0	0	0	0	0	0	0
	6	50-60	0	0	0	0	0	0	0	0	0
	7	60-70	0	0	0	0	0	0	0	0	0
	8	70-80	0	0	0	0	0	0	0	0	0
	9	80-90	0	0	0	0	0	0	0	0	0
Total			6	1	1	0	0	0	1	0	0
4	1	0-10	4	5	1	0	0	0	0	0	0
	2	10-20	0	2	0	0	0	0	0	0	0
	3	20-30	1	0	1	0	0	0	0	0	0
	4	30-40	0	0	0	0	0	0	0	0.5	0
	5	40-50	0	0	0	0	0	0	0	0	0
	6	50-60	0	0	0	0	0	0	0	0	0
	7	60-70	0	0	0	0	0	0	0	0	0
Total			5	7	2	0	0	0	0	0.5	0
5	1	0-10	2	0	0	0	0	0	0	0	0
	2	10-20	0	0	0	1	0	0	0	0	0
	3	20-30	0	0	0	0	0	0	0	0	0
	4	30-40	0	0	0	0	0	0	0	0	0
	5	40-50	0	0	0	0	0	0	0	0	0
	6	50-60	0	0	0	0	0	0	0	0	0
	7	60-70	0	0	0	0	0	0	0	0	0
Total			2	0	0	1	0	0	0	0	0
6	1	0-10	0	1	0	0	0	0	0	0	0
	2	10-20	0	1	0	3	0	0.1	0	0	0
	3	20-30	0	0	1	5	0	0	0	0	0
	4	30-40	0	0	0	3	0	0	0	0	0
	5	40-50	1	0	0	0	0	0	0	0	0
	6	50-60	0	0	0	0	0	0	0	0	0
	7	60-70	0	0	0	0	0	0	0	0	0
	8	70-80	0	0	0	0	0	0	0	0	0
Total			1	2	1	11	0	0.1	0	0	0
7	1	0-10	0	0	0	1	0	0	0	0	0.1
	2	10-20	0	0	0	0	1	0	0	0	0
	3	20-30	0	0	0	2	1	0	0	0	0
	Total		0	0	0	3	2	0	0	0	0.1
Excavated Total			17	17	5	21	3	0.1	2	0.6	0.1

Table 3. Inventory of cultural material from positive auger tests, 32BA414.

Auger Test Location	Flaking Debris (n)				FCR (G1-3) (n)	Prehistoric	Manuports (n)
	G1	G2	G3	G4		Ceramics (G1-3) (n)	
480N/500E	0	0	0	1	0	0	0
480N/560E	0	0	1	0	0	0	0
490N/500E	0	0	0	0	0	0	0
500N/520E	0	0	3	0	0	0	0
510N/540E	0	0	0	0	0	1	0
520N/460E	0	1	0	0	0	0	0
520N/520E	0	0	0	0	0	0	1
530N/460E	0	1	0	0	0	0	0
530N/510E	0	0	0	0	1	0	0
540N/460E	0	0	1	0	0	0	0
540N/490E	0	0	0	0	0	0	0
540N/500E	0	1	0	1	0	0	0
540N/510E	0	0	0	0	1	0	0
Total	0	3	5	2	2	1	1

pants relied most heavily on local materials; however, nonlocal KRF is a close second. The soundness of these interpretations is limited by small sample sizes.

Stone Tools

Only five chipped stone tools were recovered by this work at 32BA414. These are from XU1, 3, 4, and 6 (Table 2). The tools represent five functional classes, two use-phase classes, and three raw material types (Tables 4 and 5). The raw material types are limited to Swan River chert (one), jasper/chert (one), and KRF (three). Considering the fine knapping qualities of KRF, it is not surprising that KRF dominates the tool raw materials with 60% of the total.

A side notched KRF arrow point was recovered from XU6, level 3 (Figure 4). It has moderate to pronounced smoothing ("grinding") and rounding on the basal margin of the haft element and in the notches. Following are some interval scale measurements on this specimen.



Figure 4. Arrow point, XU6, level 3, 32BA414.

blade length	=	18.0 mm
distal haft element length	=	4.3 mm
basal incurvature	=	10.0 mm (straight)
proximal haft element width	=	13.0 mm
distal haft element width	=	8.0 mm
blade base width	=	13.0 mm
mid-blade width	=	10.2 mm
notch width	=	3.8 mm
notch depth	=	2.0 mm
maximum thickness	=	3.0 mm
haft angle	=	180°
weight	=	0.8 g
mean blade edge angle	=	35°
mean basal edge angle	=	25°
distal juncture angle	=	75°

XU4, level 1 produced a unilaterally retouched black chert flake with light to moderate smoothing and rounding use-wear. XU4, level 3 produced the distal end of a KRF flake with light to moderate flake ridge smoothing and rounding on the dorsal surface. While there is no working edge remaining and no use-wear was detected, the flake ridge wear suggests this fragment was part of a utilized or retouched flake tool.

A KRF core-punch-wedge-chisel of the ridge-area variety came from XU3, level 1. XU1, level 7 produced a bifacially retouched edge segment

Table 4. Raw material and cortex distributions in all stone tools and flaking debris, 32BA414.

Raw Material Class	Flaking Debris (n)				Stone Tools (n)	Total	Cortical
	G1	G2	G3	G4			
Swan River Chert	0	3	9	1	1	14	5
Jasper/Chert	0	3	2	5	1	11	3
Clear and White Mottled Chalcedony	0	0	0	2	0	2	0
Gray Chalcedony	0	0	1	0	0	1	0
Light Brown Chalcedony	0	0	1	0	0	1	1
Basalt	0	0	1	0	0	1	1
Unburned Knife River Flint	0	0	2	9	3	14	3
Other Quartzite	0	1	2	2	0	5	1
Total	0	7	18	19	5	49	14

of Swan River chert which may be thermally altered. It was probably part of a complete projectile point or patterned bifacial cutting tool. Moderate to pronounced step flaking along the bifacially retouched edge may be use-wear.

Table 5 shows there are no tools in use-phases 1 or 2; rather, all tools are either complete and functional or were once complete but are now broken and no longer functional. The latter specimens probably entered archeological context in use-phase 4.

Ceramics

There are four ceramic artifacts from 32BA414. XU7 produced one small body sherd and one small rim sherd, one from level 2 and one from level 3 (both from waterscreen samples). One small rim sherd was recovered from XU1, level 4 (dry screen), and one small body sherd was recovered from auger hole 510N/540E, which is also the location of XU1 (Figure 3).

All the ceramics are thin bodied (average thickness 4 mm) and have dark brown-black paste and grit temper. The rim sherd from XU1 is straight with a flat lip, and has a cord roughened lip-rim juncture. The rim sherd from XU7 is slightly outcurved and lacks a lip. The body sherd from XU7 is extremely small (G4), but appears to have smoothed exterior surface treatment. The body sherd from auger hole 510N/540E has a cord roughened exterior surface. No decoration was noted on any of the specimens.

Table 5. Stone tools by functional class and use-phase, 32BA414.

Functional Class	Use-Phase Class				Total
	1	2	3	4	
Projectile Point	0	0	1	0	1
Projectile Point or Patterned Cutting Tool	0	0	0	1	1
Retouched Flake	0	0	0	1	1
Retouched or Utilized Flake	0	0	0	1	1
Core	0	0	1	0	1
Total	0	0	2	3	5

The ceramics from 32BA414 are identified as probably Woodland on the basis of cord roughened exteriors and the straight, flat lipped rim. Cord roughening is generally considered a Woodland trait in the Middle Missouri subarea and this part of the Northeastern Plains (cf. Lehmer et al. 1978; Neuman 1975; Schneider 1982:119). Cord roughening is also common in ceramics from the earlier Plains Woodland Sonota complex (cf. Neuman 1975; Schneider 1982) and considering the small size of the specimens from 32BA414, a Besant/Sonota affiliation cannot be discounted.

Fire-Cracked Rock

A total of 23 pieces of FCR were recovered (Tables 2 and 3). The total weight of the FCR is 508 g, indicating the generally small size of

the material recovered. All of it appears granitic, and was recovered from XU1, 5, 6 and 7, and from auger probes 530N/510E and 540N/510E (Tables 2 and 3). No apparent pattern in FCR distribution was observed, and the material was not associated with charcoal or cultural features.

Other

Additional material from 32BA414 is limited to bone, shell, charcoal, and historic debris (Table 2). Two small pieces of tooth enamel (species unknown) with a total weight of 0.6 g were recovered. One piece came from XU1, level 5, and one came from XU4, level 4. Cultural association with the tooth enamel is possible for the specimen from XU1, but unlikely for the specimen from XU4. One very small shell fragment (0.1 g) was recovered from XU6, level 2 (Table 2). The piece of shell appears unworked, and was found in the same 10 cm level as one flake and three pieces of FCR. One very small piece of charcoal (0.1 g) was recovered from XU7, level 1. It is not known if the charcoal is the result of recent campground activity, the prehistoric use of the site, or a natural burn. No other charcoal was recovered. Finally, two historical items were located in the test units. A plastic button was found in XU3, level 1, and a small piece of scrap iron was found in XU1, level 3 (Table 2).

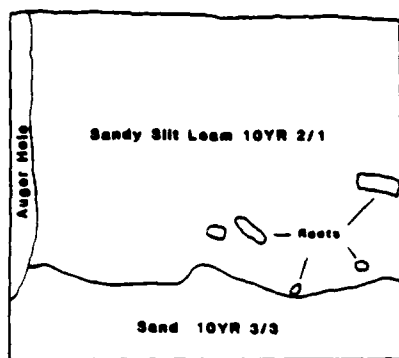
DISCUSSION

The cultural material recovered from the test units at 32BA414 was vertically distributed from level 1 (0-10 cm) to level 7 (60-70 cm) (Table 2). No evidence of cultural stratification or multiple components was observed in spite of this vertical variability. An analysis of the distribution of artifacts by level indicates the majority were recovered from the upper 30 cm. The largest percentage (28.8%) of the total number came from 20-30 cm below the surface. This is followed by 0-10 cm (22.7%) and 10-20 cm (18.2%). Slightly less than one-third of the material (30.3%) was recovered below 30 cm. These lower materials have probably been displaced downward by bioturbation.

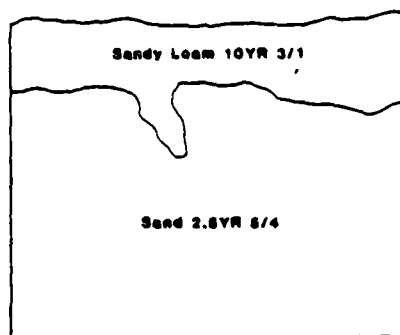
Horizontally, the cultural material appears to be distributed irregularly. Productive auger probes were sporadically located throughout several portions of the site, including isolated probes at the east end of the campground (480N/560E), the northeast end (510N/540E), the approximate center (500N/520E), and the southwestern edge (490N/500E and 480N/500E). The only portion of the site which may contain a tenuous concentration of artifacts is the north-central, which produced five productive probes within a 40 x 30 m area (Figure 3). Three subsequent test units in this area (XU3, 5, and 6); however, produced only sparse subsurface materials. Finally, three auger probes excavated at the northwest edge of the site are tentatively identified as positive indicators of prehistoric cultural deposits; however, only one (530N/460E) produced a specimen that is definitely cultural. The other two probes (540N/460E and 520N/460E) contained single pieces of Swan River chert which may be of cultural origin. Both lack diagnostic flake attributes such as striking platforms and bulbs of percussion.

The natural stratigraphy at 32BA414 is fairly simple, and generally reflects a solum composed of an A horizon of sandy and silty loam which grades into a B horizon of pure sand. No bedrock or Pleistocene gravel deposits were encountered, so the depth of the alluvial sand is unknown, but may be considerable. The stratigraphic profiles of the seven test units are presented in Figure 5. The profiles indicate fairly homogeneous natural stratigraphy, with the exception of XU2, which, instead of a sandy B horizon, contains a B horizon of yellowish sandy clay (Figure 5). The area immediately around XU2 is the only portion of the site where this sandy clay was encountered. One test unit (XU4), near the middle of the site in a tent camping area, contains the normal loam-sand stratigraphy with the addition of an upper lense of intrusive gravel. This lense of gravel is limited to the upper ca. 20 cm of the test unit. Conversations with U.S. Army Corps personnel indicated the gravel was brought into the campground several years ago.

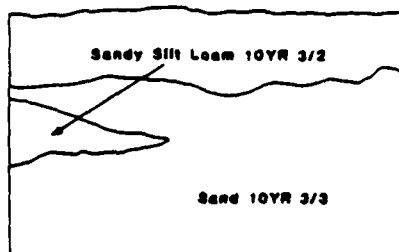
As pointed out previously, the cultural material is distributed from level 1 through level 7, or within the upper loam horizon and the lower sand horizon. However, most material was recovered from the upper 30 cm, which is loam. The sand is generally very homogeneous, lightly compacted, and quite moist. Being situated so close to Lake Ashtabula,



Test Unit 1
South Wall Profile

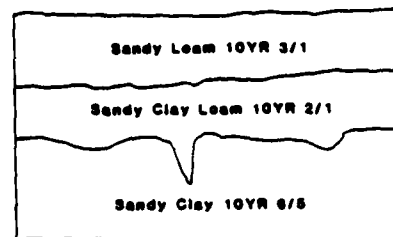


Test Unit 3
North Wall Profile

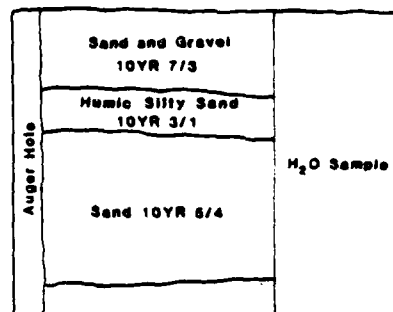


Test Unit 5
West Wall Profile

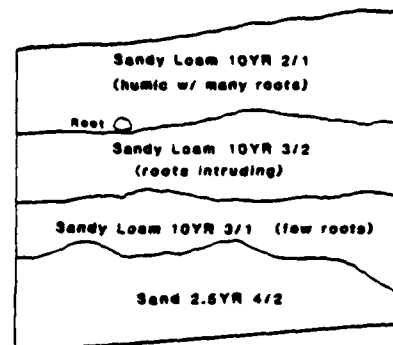
0 20 40
cm



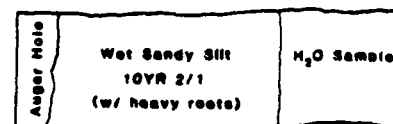
Test Unit 2
West Wall Profile



Test Unit 4
South Wall Profile



Test Unit 6
West Wall Profile



Water at bottom
Test Unit 7
South Wall Profile

Figure 5. Profiles of XUs 1, 2, 3, 4, 5, 6, and 7, 32BA414.

the water table is high in the site area. In XU7, water was encountered at ca. 26 cm below the ground surface. Many of the other test units and a large portion of the auger probes were extremely wet, especially below ca. 70 cm, or in those near the water's edge.

Little can be said about site function at 32BA414. The presence of chipped stone flaking debris obviously reflects tool manufacturing or tool maintenance activities. Considering the maximum density of flaking debris from any test unit is six G1-3 flakes per m², the intensity of flintknapping was apparently low. The small numbers of stone tools recovered also suggest tool use, discard, and maintenance activity intensity was low. The flaking debris aggregate is lacking G1 flakes, while the stone tool aggregate is lacking cores from locally available materials. The small number of flakes recovered tends to discount tool manufacturing in general as an important site activity. Tool maintenance tasks more likely account for the flaking debris.

The presence of FCR is suggestive of stone boiling or general cooking and food processing. Unfortunately, no additional or more specific information concerning this activity was obtained. Unlike nearby sites 32BA418 and 32BA3, faunal processing or bone grease rendering cannot be documented at 32BA414 (cf. Fox 1982; Gnabasiak and Gregg 1984). The only faunal materials recovered were two small pieces of tooth enamel, neither of which can be identified as systemically associated with the prehistoric lithic artifacts. This paucity of faunal material, together with a lack of seeds from the waterscreen samples, results in a virtual lack of information on subsistence activities.

The cultural material assemblage, consisting of flaking debris, stone tools, and FCR, suggests more than one site activity, and indicates this location may have functioned as a temporary campsite. The paucity of material, however, indicates short duration occupation(s).

The site can be identified as Plains Woodland based on the cord roughened ceramics and the small, side notched arrow point. Temporally, the point style is limited to the Late Prehistoric period, as earlier groups utilized spear and dart points rather than arrow points (cf. Johnson 1970:55; Kehoe 1966:839; Neuman 1975). This limits the cultural affiliation of the point to late Plains Woodland or Plains Village. The

cord roughened ceramics probably limit the cultural affiliation of the site to the Plains Woodland tradition (cf. Lehmer et al. 1978; Neuman 1975; Schneider 1982; Wood and Johnson 1973). If the projectile point eliminates the Middle Woodland, and the ceramics limit the site to Woodland in general, an affiliation of late Plains Woodland can be suggested by the process of elimination. The site was also identified as Late Woodland based on projectile points collected during the 1978-1979 survey (Fox 1980:76). The dates for late Plains Woodland are estimated at ca. A.D. 900-1350 (Schneider 1982:121; Syms 1982:163; Vehik 1979:21). The late Plains Woodland affiliation is somewhat supported by the total lack of patination on the KRF chipped stone artifacts. It has been suggested that KRF artifacts with moderate or heavy patination should be at least 1500 years old (Ahler et al. 1981:234). However, artifacts without patination may be substantially older than 1500 years (Ahler et al. 1981:234). Therefore, the lack of patination on the 32BA414 materials cannot be considered temporally diagnostic, but it does not conflict with the suggested late Plains Woodland affiliation.

Finally, the 1978-79 collection of four projectile points, one biface, and 47 flakes at the shoreline is somewhat of an anomaly (Fox 1980:75-77) considering the lack of cultural material observed during the 1977 survey of the site area (Schneider 1977), and the paucity of materials recovered during the current testing project. At the present time, the relationship between the 1978-1979 artifacts and those currently recovered is unclear. Two explanations are possible concerning the earlier concentration of materials along the shoreline. Fox (1980:75) suggests the shoreline materials washed into the area from site 32BA5, now inundated but originally located approximately 400 m west. This remains a plausible explanation and implies no systemic association between the material recovered from the beach and that recovered in the campground during the recent testing. A second explanation is that 32BA414 was originally concentrated slightly west of the present shoreline, and has since been largely inundated by Lake Ashtabula. This suggests that material found along the beach was located much closer to primary context than if it had washed in from 32BA5. If site 32BA414 was concentrated slightly offshore and is now largely inundated, the campground area containing sparsely distributed

cultural materials may be considered the eastern periphery. If this is the case, the site lacks integrity due to flooding of the main site area. If this is not the case, the site in the campground area retains integrity, but does not appear to be significant in terms of NR eligibility criteria.

CONCLUSIONS

The archeological information recovered from 32BA414 is limited; however, several basic conclusions can be drawn from the information available. It appears likely the site located at Eggerts Landing campground is peripheral to a larger site located at a slightly lower elevation and now under the waters of Lake Ashtabula. The cultural material in the campground area is suggestive of a temporary campsite where tool maintenance tasks and food processing tasks of an unknown variety were performed. Lithic raw materials are dominated by locally available cherts, chalcedonies, and quartzites; however, KRF is fairly common, indicating travel to, or contact with, the source areas west of the Missouri River. No cultural material is visible on the surface of the site; subsurface artifacts are present in very low densities. The average density of G1-3 artifacts is 6.5 specimens per m². The material is concentrated in the upper 30 cm of matrix which is an alluvial sandy and silty loam. The site appears to represent a single component dating late in the Plains Woodland period (ca. A.D. 900-1350). Temporally diagnostic artifacts include a small collection of cord roughened ceramics and a single, side notched arrow point. The point is stylistically similar to projectile points recovered from the beach area during the 1978-1979 survey (Fox 1980).

The cultural material appears horizontally distributed with little or no patterning or concentrations. The systematic auger probing indicates material is limited to an area of ca. 60 x 100 m, comprising the undisturbed and heavily wooded tent camping portion of the Eggerts Landing campground. Other areas of the campground are disturbed by road and campground construction, including restrooms and a well. Aerial photographs of the site show extensive disturbance throughout most of the campground, including plainly visible cultivated rows of trees

(Strachan and Roetzel n.d.). Undisturbed cultural deposits are not likely to occur outside the tent camping portion of the campground. Within the tent camping area, undisturbed cultural materials exist in very low densities.

RECOMMENDATIONS

The testing program at 32BA414 resulted in information sufficient to evaluate the site's NR eligibility. This information is largely insufficient; however, to address the eight formulated research questions, a direct reflection of the site's NR eligibility status.

Does the site contain datable organic materials and does it contain temporally/culturally diagnostic artifacts? The ceramics and a projectile point indicate a late Plains Woodland occupation. The site produced no materials for radiocarbon or other absolute dating, and the likelihood of such materials existing in the site is considered low.

Does the site contain sufficient information to enable determining site function? The site appears to represent a temporary campsite with known activities limited to stone tool maintenance. Food processing is tenuously suggested on the basis of the ceramics and the small amount of FCR, but no information was recovered relative to subsistence resources or food preparation techniques. Similarly, there are no data on procurement of faunal resources, season of occupation, population size, or social organization.

Does the site contain sufficient floral and faunal information to interpret subsistence activities? There were scant floral and faunal materials recovered, no cultural features, and no tools associated with specific subsistence techniques (e.g., fishhooks, heavy butchering tools, ground stone manos) other than the single projectile point, which may indicate hunting.

What intrasite comparisons can be made concerning activity areas, artifact densities, or other factors relevant to variability in activity patterning? The paucity of cultural material in general, the lack of diversity within the assemblage, and the apparent lack of patterning in artifact distribution prohibit meaningful intrasite comparisons.

Does the site contain rare or unusual cultural material, or contain cultural material of a named archeological unit that is especially poorly understood or rarely represented in the area? The site did not produce any rare or unusual artifacts. Similarly, the identification of the site as late Plains Woodland is not surprising or rare for the Sheyenne River Valley (Fox 1980:180). Woodland components have also been identified at the Naze, Beeber, Kirschenmann III, and Chappel sites along the James River Valley ca. 75 km south of the study area (Schneider 1982:119).

Is there evidence for more than one prehistoric component in a stratified context? No evidence was obtained to suggest the presence of more than one component. While artifacts were distributed vertically throughout 70 cm of matrix, the majority were concentrated in the upper 30 cm. Materials below 30 cm bs are believed to have been downwardly displaced by bioturbation. The temporally diagnostic artifacts recovered suggest a late Plains Woodland occupation, and additional temporal indicators such as patination do not conflict with the interpretation that a single component is represented.

Does the site contain information useful in interpreting paleo-environmental conditions? Since pollen samples were not collected, this research question cannot be answered comprehensively. However, considering the very sparse cultural materials and alluvial setting, it is unlikely the site contains pollen samples with good cultural association. In addition, the homogeneous nature of the alluvial deposits at the site inhibit stratigraphic or geomorphological interpretation. Further, faunal remains and carbonized plant remains are rare in the site matrix.

Does the site retain integrity? The integrity of the site is a primary NR eligibility consideration. It appears 32BA414 lacks integrity in that the main site area is slightly west of the present campground and now inundated by Lake Ashtabula. This idea is supported by the concentration of materials along the shoreline in 1978-1979, and the comparative paucity of material encountered in the campground. The site has been further disturbed by campground construction activities and systematic tree planting.

32BA414 did not, and is not likely to, produce information with utility for comprehensively addressing the above research questions. It has not, and is not likely to, produce important regional prehistoric information. Therefore, it is evaluated as ineligible for listing on the NR.

The testing program summarized in this report is the fourth archeological investigation conducted at the site. The first investigation, a survey in 1977, failed to locate any prehistoric cultural materials and indicated the area has low archeological potential (Schneider 1977). The second investigation was the survey of the Lake Ashtabula shoreline conducted in 1978-1979. While artifacts were recovered from the shoreline area of the site, these materials were believed to be out of primary context (Fox 1980:75). In addition, 15 auger probes were excavated in the campground area with negative results, prompting an evaluation of NR noneligibility (Fox 1980:76). The third investigation consisted of an infrared aerial photographic reconnaissance of the east shoreline of Lake Ashtabula. The Eggerts Landing area was included in the aerial reconnaissance and was evaluated as heavily disturbed and having low archeological potential (Strachan and Roetzel n.d.:15).

The current testing program at 32BA414 tends to confirm the earlier evaluations that the site is not eligible for nomination to the National Register of Historic Places. It is recommended that no further archeological work be conducted at the site because it lacks integrity and is not likely to produce significant archeological information.

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APPENDIX A

SCOPE OF WORK CULTURAL RESOURCES INVESTIGATION OF SITE 32BA414, BALDHILL DAM, BARNES COUNTY, NORTH DAKOTA

1.00 INTRODUCTION

1.01 The Contractor will undertake a cultural resources investigation of Site 32BA414 as part of the relocation of the recreation area for the Baldhill Dam Safety Program, Barnes County, North Dakota.

1.02 This cultural resources inventory partially fulfills the obligations of the Corps of Engineers (Corps) regarding cultural resources, as set forth in the National Historic Preservation Act of 1966 (Public Law (P.L.) 89-665), as amended; the National Environmental Policy Act of 1969 (P.L. 91-190); Executive Order (E.O.) 11593 for the "Protection and Enhancement of the Cultural Environment" (Federal Register, 13 May 1971); the Archaeological and Historical Preservation Act of 1974 (P.L. 93-291); the Advisory Council on Historic Preservation "Regulations for the Protection of Historic and Cultural Properties (36 CFR Part 800); the Department of the Interior guidelines concerning cultural resources (36 CFR Part 60); and the applicable Corps regulations (ER 1105-2-50).

1.03 The laws listed above establish the importance of Federal leadership, through the various responsible agencies, in locating and preserving cultural resources within project areas. Specific steps to comply with these laws, particularly as directed in P.L. 93-291 and E.O. 11593, are being taken by the Corps " . . . to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance." A part of that responsibility is to locate, inventory, and nominate to the Secretary of the Interior all such sites in the project area that appear to qualify for listing on the National Register of Historic Places.

1.04 Executive Order 11593 and the 1980 amendments to the National Historic Preservation Act further direct Federal agencies " . . . to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished or substantially altered." In addition, the Corps is directed to administer its policies, plans, and programs so that federally and non-federally owned sites, structures, and objects of historical, architectural, or archaeological significance are preserved and maintained for the inspiration and benefit of the people.

1.05 This cultural resources investigation will serve several functions. The report will be a planning tool to aid the Corps in meeting its obligations to preserve and protect our cultural heritage. It will be a comprehensive, scholarly document that not only fulfills federally mandated legal requirements but also serves as a scientific reference for future professional studies. It will identify sites that may require additional investigations and that may have potential for public-use development. Thus, the report must be analytical in nature, not just descriptive.

2.00 PROJECT DESCRIPTION

2.01 Lake Ashtabula and Baldhill Dam, authorized by the Flood Control Act of 1944, is a multi-purpose project operated to provide flood control, water supply and recreational opportunities.

2.02 Baldhill Dam was recently inspected under the Dam Safety Assurance Program and modifications to the spillway were recommended. This modification to the spillway will require relocation of the main recreation area from the dam area to Eggerts Landing.

2.03 A cultural resources literature search and records review and Phase I survey of Lake Ashtabula located 46 sites. The results of this survey are detailed in a report entitled 1978-1979 Cultural Resource Investigations Along the Middle Sheyenne River Valley Including Lake Ashtabula and a Portion of the Sheyenne River. This report was prepared by the University of North Dakota under contract with the St. Paul District, Corps of Engineers.

2.04 One of the sites located during this survey is 32BA414. This site is located in the SW $\frac{1}{4}$, NW $\frac{1}{4}$, SW $\frac{1}{4}$, SE $\frac{1}{4}$ Sec. 22 T142N R58W. This site consists of lithic material found along the beach area and shallows in the Eggerts Landing recreation area. Additional information on the site is contained in the attached North Dakota cultural resources survey base data form.

3.00 DEFINITIONS

3.01 For the purpose of this study, the cultural resources investigation will involve Phase II testing. A literature and records search and review and a Phase I survey will not be conducted at this time.

3.02 "Cultural resources" are defined to include any building, site, district, structure, object, data, or other material relating to the history, architecture, archaeology, or culture of an area.

3.03 "Phase II testing" is defined as the intensive testing of those sites that may provide important cultural and scientific information. Phase II testing will result in data adequate to determine the eligibility of the resources for inclusion on the National Register of Historic Places, a plan for the satisfactory mitigation of eligible sites that will be directly or indirectly impacted, and detailed time and cost estimates for mitigation.

4.00 SURVEY AND TESTING SPECIFICATIONS

4.01 Phase II testing will be conducted at Site 32BA414 as shown on the map included in the attached North Dakota cultural resources survey base data form.

5.00 PERFORMANCE SPECIFICATIONS

5.01 The Contractor will use a systematic, interdisciplinary approach in conducting the study. The Contractor will provide specialized knowledge and skills during the course of the study to include expertise in archaeology and in other social and natural sciences as required.

5.02 The extent and character of the work to be conducted by the Contractor will be subject to the general supervision, direction, control, review, and approval of the Contracting Officer.

5.03 Techniques and methodologies that the Contractor uses during the investigation shall be representative of the current state of knowledge for their respective disciplines.

5.04 The Contractor must keep standard records that shall include, but not be limited to, field notebooks, site survey forms, field maps, and photographs.

5.05 The recommended professional treatment of recovered materials is curation and storage of the artifacts at an institution that can properly insure their preservation and that will make them available for research and public view. If such materials are not in Federal ownership, the consent of the owner must be obtained, in accordance with applicable law, concerning the disposition of the materials after completion of the report. The Contractor will be responsible for making curatorial arrangements for any collections that are obtained. Such arrangements must be coordinated with the appropriate officials of North Dakota and approved by the Contracting Officer.

5.06 When sites are not wholly contained within the right-of-way, the Contractor shall survey an area outside the right-of-way limits large enough to include the entire site within the survey area. This procedure shall be done in an effort to delineate site boundaries and to determine the degree to which the site will be impacted.

5.07 The Contractor shall provide all materials and equipment as may be necessary to expeditiously perform those services required of the study.

5.08 Should it become necessary in the performance of the work and services, the Contractor shall, at no cost to the Government, secure the rights of ingress and egress on properties not owned or controlled by the Government. The Contractor shall secure the consent of the owner, his representative, or agent, in writing prior to effecting entry on such property. If requested, a letter of introduction, signed by the District Engineer, can be provided to explain the project purposes and request the cooperation of landowners. When a landowner denies permission for survey, the Contractor shall immediately notify the Contracting Officer and shall describe the extent of the property to be excluded from the survey.

5.09 The Contractor will test the site areas sufficiently to determine the existence of cultural materials and/or features, their condition (in situ or disturbed), the horizontal and vertical distribution of the remains, and, if possible, the cultural affiliation of the site(s).

5.10 Recommendations on the significance of the site(s) according to the National Register of Historic Places criteria will be included in the Contractor's final report. These recommendations will include a detailed justification for the significance or non-significance of the site(s), including what research questions the site(s) can answer.

5.11 The Contractor will recommend appropriate mitigative measures, including time and cost estimates, where warranted.

5.12 All testing will employ standard archaeological techniques, including formal test pits. All material will be screened through 1/4-inch mesh screen.

5.13 The tested areas will be returned as closely as practical to pre-survey conditions by the Contractor.

6.00 GENERAL REPORT REQUIREMENTS

6.01 The Contractor will submit the following types of reports, which are described in this section and in section 9.00: field report, field notes, draft contract report, final contract report, and a completed National Register form(s), if appropriate.

6.02 The Contractor's technical report will include, but will not be limited to, the following sections, as appropriate to the study.

a. Title Page: The title page will provide the following information: the type of investigation undertaken; the cultural resources that were assessed (archaeological, historical, and architectural); the project name and location (county and State); the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Management Summary: This section will include a concise summary of the study, which will contain all essential data for using the document in the Corps of Engineers management of the project. This information will minimally include: why the work and budget, summary of the study (field work; lab analysis), study limitations, study results, significance, recommendations, and the repository of all pertinent records and artifacts.

c. Table of Contents

d. List of Figures

e. List of Plates

f. Introduction: This section will identify the sponsor (Corps of Engineers) and the sponsor's reason for the study; an overview of the testing project, with the site(s) located on USGS quad maps. This section will also provide an overview of the archaeological study to be undertaken; define the location and boundaries of the study areas (with regional and area-specific

maps); define the study area within its cultural, regional, and environmental context; reference the scope of work; identify the institute that did the work, the number of people involved in the study, and the number of person-days/hours spent on the study; identify the dates when the various types of work were completed; identify the repository of records and artifacts; and provide a brief overview or outline of how the study report will proceed and an overview of the major goals that the study/study report will accomplish.

g. Previous Archaeological and Historical Studies: This section will provide a brief summary and evaluation of previous archaeological and historical studies of the study area including the researchers, date, extent, adequacy of the past work, study results, and cultural/behavioral inferences derived from the research.

h. Environmental Background: This section will include a brief description of the study area environment, including the following categories: geology, vegetation, fauna, climate, topography, physiography, and soils, with reference to prehistoric, historic, ethnographic, and contemporary periods. Any information available on the relationship of the environmental setting to the area's prehistory and history will also be included. This section will be of a length commensurate with other report sections.

i. Theoretical and Methodological Overview: This section will include a description or statement of the goals of the Corps of Engineers and the study researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied in achieving the stated goals.

j. Field Methods: This section will describe the specific archaeological activities undertaken to achieve the stated theoretical and methodological goals. The section will include all field methods, techniques, strategies, and rationale or justification for specific methods or decisions. The description of the field methods will minimally include: a description of field conditions, topographic/physiographic features, vegetation conditions, soil types, stratigraphy, testing results with all appropriate testing forms to be included as an appendix, and the rationale for eliminating uninvestigated areas. Testing methods will include descriptions of test units (size, intervals, stratigraphy, depth) and the rationale behind their placement.

k. Analysis: This section will describe and provide the rationale for the specific analytic methods and techniques used, and describe and discuss the qualitative and quantitative manipulation of the data. Limitations or problems with the analysis based on the data collection results will also be discussed. This section will also contain references to accession numbers used for all collections, photographs, and field notes obtained during the study, and the location where they are permanently housed.

l. Investigation Results: This section will describe all the archaeological resources encountered during the study, and other data pertinent to a complete understanding of the resources within the study area. This section will include enough empirical data that the study results can be independently assessed. The description of the data will minimally include:

a description of the site; amounts and type of material remains recovered; relation of the site or sites to physiographic features, vegetation and soil types; direct and indirect impacts to the site(s); analysis of the site and data (e.g., site type, cultural historical components and information, cultural/behavioral inferences or patterns); site condition; and location and size information (elevation, complete quad map source, legal description, address if appropriate, and site size, density, depth, and extent).

m. Evaluation and Conclusions: This section will evaluate and formulate conclusions concerning location of the site(s); size, condition, distribution, and density in relation to other sites in the area; and significance in relation to the local and regional prehistory, protohistory, and history. This section will also discuss the potential and goals for future research; the reliability of the analysis; relate results of the study and analysis to the stated study goals; identify changes, if any, in the research goals; synthesize and compare the results of the analysis and study; integrate ancillary data; and identify and discuss cultural/behavioral patterns and processes that are inferred from the study and analysis results.

n. Recommendations: This section will discuss the significance of the site(s) in relation to the research goals of the study and the National Register of Historic Places criteria; make recommendations as to the eligibility of the site(s) to the National Register; recommend future mitigative priorities and needs; and make suggestions with regard to the Corps of Engineers planning goals. These recommendations will include a time and cost estimate for mitigation, if necessary. If it is the Contractor's assessment that the site(s) is (are) not significant, the methods of investigation and reasoning which support that conclusion will be presented. Any evidence of cultural resources or materials which have been previously disturbed or destroyed will be presented and explained.

o. References: This section will provide standard bibliographic references (American Antiquity format) for every publication cited in the report. References not cited in the report will be listed in a separate "Additional References" section.

p. Appendix: This section will include the Scope of Work, resumes of all personnel involved, all correspondence derived from the study, all State site forms, and all testing and any other pertinent report information referenced in the text as being included in the appendix.

6.03 The location of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map and will be bound into the report. All maps will be labeled with a caption/description, a north arrow, a scale bar, township, range, map size, and dates, and the map source (e.g., the USGS quad name or published source) and will have proper margins.

6.04 Failure to fulfill these report requirements will result in the rejection of the Contractor's report by the Contracting Officer.

7.00 FORMAT SPECIFICATIONS

7.01 The Contractor shall submit to the Contracting Officer the photographic negatives for all black and white photographs that appear in the final report.

7.02 All text materials will be typed, single-spaced (the draft reports should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches with 1.5-inch binding and bottom margins and 1-inch margins on the top and other margin, and will be printed on both sides of the paper.

7.03 Information will be presented in textual, tabular, and graphic forms, whichever are most appropriate, effective, or advantageous to communicate the necessary information.

7.04 All figures and maps must be clear, legible, self-explanatory, and of sufficiently high quality to be readily reproducible by standard xerographic equipment, and will have margins as defined above.

7.05 The final report cover letter shall include a budget of the project.

7.06 The draft and final reports will be divided into easily discernible chapters, with appropriate page separation and heading.

8.00 MATERIALS PROVIDED

8.01 The Contracting Officer will furnish the Contractor with the following materials: access to any publications, records, maps, or photographs that are on file at the district headquarters.

9.00 SUBMITTALS

9.01 The Contractor will submit reports according to the following schedules:

a. Field Report: The original and one copy of a field report will be submitted after completion of the field work. The field report will summarize the work, project/field limitations, methodology used, time used, and survey results.

b. Project Field Notes: One legible copy of all the project field notes will be submitted with the draft contract report.

c. Draft Contract Report: Five (5) copies of the draft contract report will be submitted on or before _____ days after contract award. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archaeologist, and the National Park Service. The draft contract report will be submitted according to the report and contract specifications outlined in this Scope of Work.

d. Final Contract Report: The original and 15 copies of the final contract report will be submitted 60 days after the Corps of Engineers comments on the draft contract report are received by the Contractor. The

final contract report will incorporate all the comments made on the draft contract report.

e. National Register Forms: An original and one copy of a completed National Register Nomination Form(s) will be submitted with the final contract report.

9.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other material of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer prior to the acceptance of the final report by the Government. After the Contracting Officer has accepted the final report, distribution will not be restricted by either party except that data relating to the specific location of extant sites will be deleted in distribution to the public.

9.03 All materials, documents, collections, notes, forms, maps, etc., which have been produced, gathered, or acquired in any manner for use in the completion of this contract shall be made available to the Contracting Officer upon request.

10.00 METHOD OF PAYMENT

10.01 Requests for partial payment under this fixed price contract shall be made monthly on ENG Form 93. A 10-percent retained percentage will be withheld from each partial payment. Upon approval of the final reports by the Contracting Officer, final payment, including previously retained percentage, shall be made.

NORTH DAKOTA CULTURAL RESOURCES SURVEY

Base Data Form

APPENDIX B

1. County PARNES
2. Site Number 32BA 414
3. Site Name (s) EGGERT'S BEACH SITE
4. Type of Resource: A. Archaeological ☒ Historical ☐ Architectural ☐ Paleontological ☐
B. District ☐ Site ☒ Building ☐ Structure ☐ Object ☐
5. Map Reference: USGS 7.5 MIN. SERIES "BALDHILL DAM QUADRANGLE" 1961
6. Location: SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 22 T 142 N / R 58 W
Plat: _____ Block _____ Lot _____
UTMS: A. _____ B. _____
C. _____ D. _____
7. Access: SITE IS NW ACROSS DRAINAGE FROM EGGERT'S LANDING. FOLLOW PICNIC AND RAMP ROAD N AND W TO CAMPSITE #21-22.
8. A. General description of site: LITHIC MATERIAL FOUND ALONG BEACH AREA AND IN SHALLOW WATER AND WELL WORN TRAIL. FROM CAMPSITES 21 & 22 TO BEACH. SITE IS APPARENTLY SUBSURFACE (NO ARTIFACTS FOUND ON SURFACE IN CAMPSITE).
- B. Condition of site: ERODING INTO LAKE ASHTABULA
9. Owner's name/address: U.S. ARMY CORPS OF ENGINEERS
10. Occupant's name/address: N/A
11. Historic Register value: Nat. ☐ State ☐ Undt. ☒ None ☐ On Reg. ☐ In District ☐ District ☐
12. Open to public: Yes ☒ No ☐ 13. Preservation Underway: Yes ☐ No ☐ IN POOL
14. Endangered by: EROSION AND ARTIFACT COLLECTORS, RIP RAPPING-FUTURE RAISES ELEVATION
15. Survey Project: Title LAKE ASHTABULA SURVEY 1978-79 Director RICHARD A. FOX
Other surveys in which included NONE KNOWN
16. Recommendations: See final report for items #11 & 16
17. Environment: Elevation 1270' Nearest Water: Type LAKE
Name L. ASHTABULA Distance 1 M Direction S
Soil conditions: COMPACT
Soil Texture: SAND AND LOAM

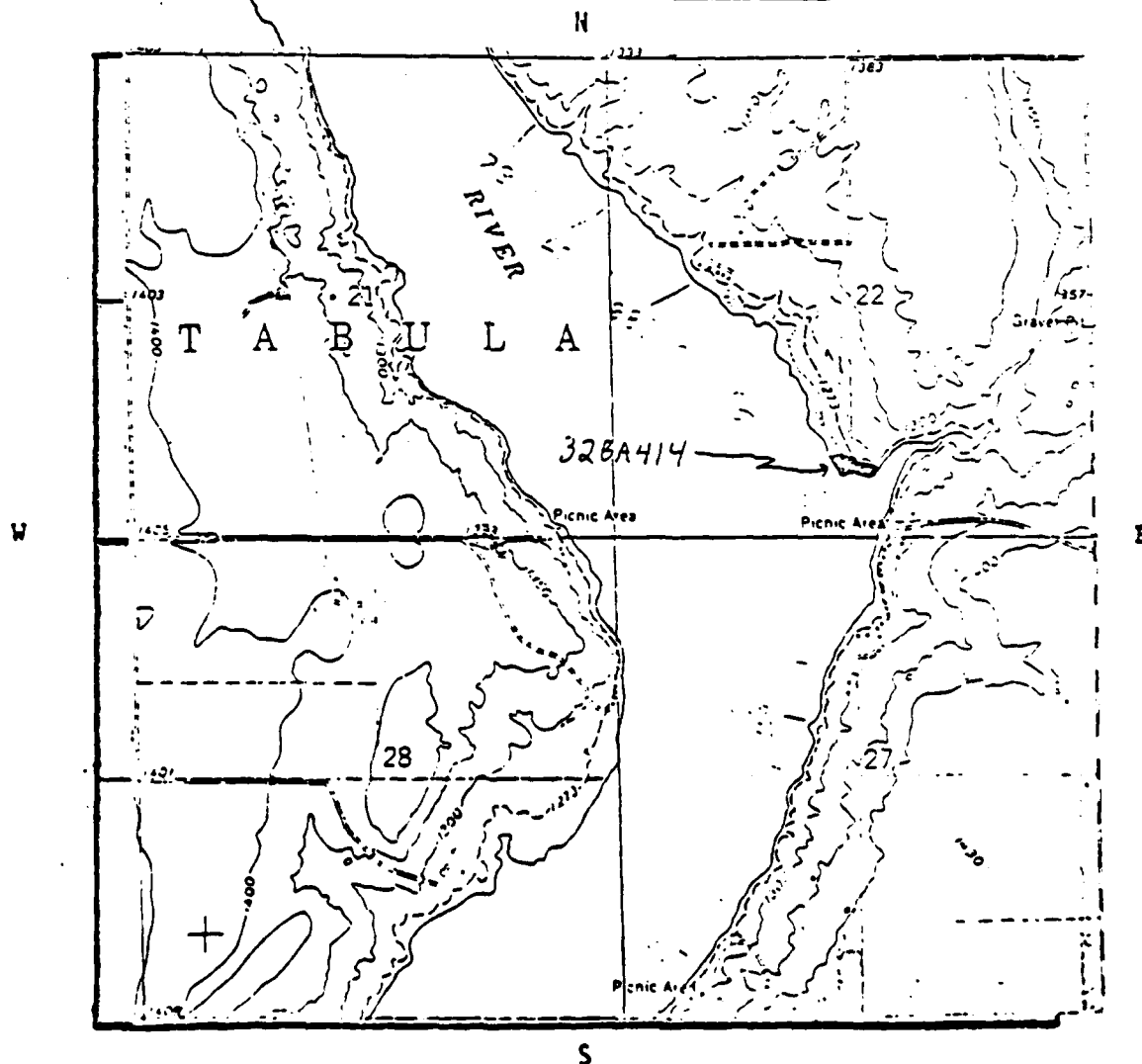
Site Number 32BA414

17. Environment, Cont.

Ground Cover: TURF AND VARIOUS DECIDUOUS TREESTerrain: FLAT WITH GENTLE SOUTH SLOPING BEACH AND TERRACE18. Local contact person or organization: AUDREY THOMAS, U.S. ARMY CORPS OF ENGINEERS,19. Photos: No B/W Color Prints Slides Comments/ID code ST. PAUL DISTRICT, MN78 LACS 1-13, 78 LABW 1-13, 78 LACS 1-14, 78 LABW 1-14Negatives stored at: ANTHRO LAB - UND

In space below attach and identify a picture or contact print of the site.

20. Sketch Map of Site:

Scale: 1:24,000Recorded by: S. LANTZ, L. O'BRIEN, R. FAFLAK, R. FOXDate 20 OCT. 1978

Revised by: _____

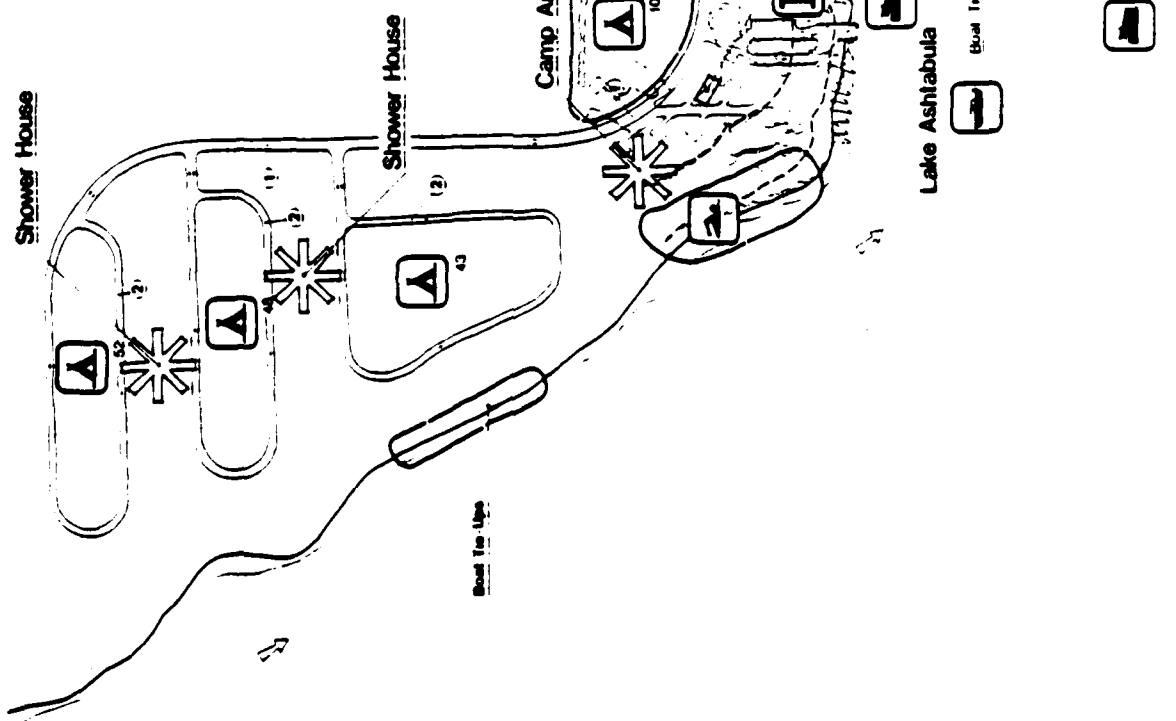
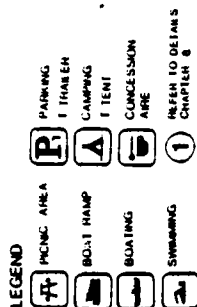
Date _____

21. Preliminary cultural assessment: UNKNOWN
22. Site Type: OCCUPATION
23. Collection: Time spent collecting: 1 pers/ 1 hr(s). Materials collected: 1 PROJ. POINT OF BROWN CHALCEDONY (MRT), 1 BIFACE MIDSECTION OF WHITE CHALCEDONY, 1 PROJ. POINT OF WHITE CHALCEDONY, 1 PROJ. POINT TIP OF RED CHERT, 1 BIFACE ON RED CHERT, 5 FLAKES BROWN CHALCEDONY (MRT OR RED WOOD), 24 FLAKES QUARTZITE, 3 FLAKES BASALT, 5 FLAKES CHERT
KRF PROJECTILE POINT IS A CORNER NOTCHED SPECIMEN. SEE ITEM 26
Artifacts stored at: UND DEPT. ANTHROPOLOGY/ARCHAEOLOGY
Materials observed, but not collected: NONE
- Collections observed: Material NONE
- Owner/address: N/A
24. Site size: (Meters, feet-yards, acres) UNDETERMINED; FLAKES ALONG 150M LENGTH OF BEACH
How determined: Paced Eyeballed x Taped Other
25. Surface Features Observed: NONE
26. Comments/References: ALTHOUGH THERE ARE CUTBANKS ALONG THIS AREA, THEY ARE POORLY EXPOSED BECAUSE OF HEAVY SEMI-AQUATIC PLANT GROWTH ON THEM. WE TROVELED A CUTBANK AREA FOR BETTER EXPOSURE AND RECOVERED SEVERAL FLAKES. IT APPEARS THE SITE IS SUBSURFACE AND CONTINUES UP INTO THE CAMPING AREA. MUCH OF THE SITE HAS PROBABLY BEEN ERODED AWAY OR INUNDATED. WHITE CHALCEDONY POINT IS UNNOTCHED TRIANGULAR VARIETY. THERE IS A POSSIBILITY THAT SOME OF THE LITHICS ALONG THE BEACH HAVE WASHED UP FROM A PREVIOUSLY RECORDED (KIVETT 1947) AND NOW INUNDATED SITE 13BA4. ALTHOUGH BA5 HAD MUCH CERAMICS & LITTLE STONE (UNLIKE BA414). BA5 WAS LOCATED APPX. 600 METERS WEST OF BA414.

Recorded by: S. LANTZ, L. O'BRIEN, R. FAELAK, R. FOXDate 20 OCT. 1978

Lake Ashtabula Master Plan

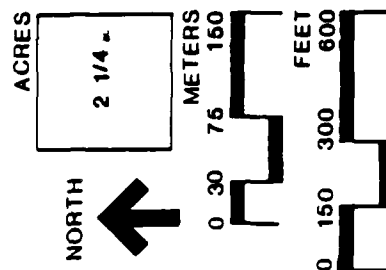
U.S. Army Corps of Engineers
Bather Ringrose Wolfeld



Eggerts Landing

EXISTING CONDITIONS - 1976

MASTER PLAN-1977



21

**DAT
FILM**